

American Museum Novitates

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY
CENTRAL PARK WEST AT 79TH STREET, NEW YORK 24, N.Y.

NUMBER 1994

MARCH 8, 1960

The Status of *Vespertilio auripendulus* Shaw, 1800, and *Molossus ater* Geoffroy, 1805

BY GEORGE G. GOODWIN

Shaw (1800, p. 137) gave the scientific name *Vespertilio auripendulus* to the bat listed, described, and associated with the vernacular name "slouch-eared bat" by Pennant (1793, p. 313). Pennant in turn took his description from Buffon (1789, p. 294) and refers to the illustration of this bat given by Buffon (1789, pl. 75) in natural size.

As Pennant's description is based on Buffon's description and plate, it can definitely be established that *Vespertilio auripendulus* Shaw is a molossid bat of the size of *Eumops*. The length of the pelage, the color, and the dentition indicate that it was the same species that we now know as *Eumops abrasus* (Temminck) rather than *Eumops glaucinus* (Wagner), which is a paler bat and is not known to occur near the Guianas. A translation of Buffon's description of the type, with the reproduction of his plate 75, will bear out the assumption that *Vespertilio auripendulus* Shaw is a recognizable, valid species.

Other Bats from Guiana.

This bat [pl. 75], of which the length from the end of the muzzle to the anus is 3 "pouces" 4 "lignes" [90.28 mm.] was sent from Cayenne by M. de la Borde. It is common in Guiana and as a rule about the size of our "noctule" [common bat]. It has, as do all the bats, small eyes, the end of the nose is wide, the distance between the nostrils is 1½ "lignes" [3.38 mm.]; the length of the head, from the end of the muzzle to the occiput, is 10 "lignes" [22.56 mm.]. The ears, which are flattened on the sides, arise from the middle of the forehead, forming several folds, and extend over the cheeks, flattening out at the acoustic duct; the tragus [antitragus], which is situated in front of this duct, is small, wide, and round at its extremity. This crumpled form of the ears and the projecting upper rim give this bat a character which distin-

guishes it from all the other species. But a character equally distinctive is to have the wings very long and quite narrow; they are 15 "pouces" 2 "lignes" [410.56 mm.] in width; each wing is 7 "pouces" long by 2 "pouces" at its greatest width. The bone of the arm seems to be attached to the body lower than in other bats, which balances the greater length of the wings. The membrane of the wings which covers the legs and the tail is a brown or grayish color. The tail enveloped in the membrane is 13 "lignes" [29.33 mm.] long; it is narrow and ends in a little hook.

The hair on the body is $2\frac{1}{2}$ "lignes" [5.64 mm.] in length; its color is a dark chestnut brown which becomes blackish towards the head; the color is not so dark on the stomach, and ash gray on the sides; the face and the ears are the same color as the wings. The nose, the cheeks, and the jaws are covered with down or very short hair.

The upper jaw has no incisors; but on each side there is one big canine and a small pointed tooth next to it. The lower jaw has two very small incisors which touch each other; the two canines below end in a point and their sides show a groove into which the upper canines fit.

The old French measure of 1 "pouce" equals 27.07 mm., and 1 "ligne" equals 2.256 mm., according to Webster's "New international dictionary" (1935), and are used here for the translation of Buffon's measurements into millimeters. In Geoffroy's (1805, pp. 155-156) measurements, 1 "pouce" equals 28.00 mm., and 1 "ligne" equals 2.33 mm.

Buffon states that the specimen had no upper incisors and only one pair of lower incisors. The type evidently had lost its upper incisors through age or mutilation, as there are no American bats except *Myropteryx* that do not have upper incisors. It is possible that Buffon missed seeing both pairs of lower incisors and mistook the canine cingula for incisors. He also may have referred to p^4 as the "small pointed tooth next [to the big canine]" and overlooked the tiny premolars. Buffon also states that the tail was encased in the interfemoral membrane and ended in a hook; apparently the tail was aberrant. The length of the head (23 mm.) is too small for that of *Eumops abrasus* or *Molossus ater* and was probably taken from the nose to the back of the ear. Such a measurement would be about right for the plate and for the length of the head of *Eumops abrasus*. The length from the muzzle to the anus is too great for either species. Geoffroy (1805) did not see Buffon's specimen but put it in the genus *Molossus* and named it *Molossus amplexi-caudatus*, though he could not reconcile the number of incisors with those in the genus *Molossus* and attributed the discrepancy to possible mutilation. When Geoffroy named Buffon's bat *amplexi-caudatus*, he was apparently unaware that Shaw had named it *Vespertilio auripendulus* in 1800.

While *Vespertilio auripendulus* Shaw would seem to be a clear-cut



FIG. 1. The "Guiana Bat." After Buffon (1789, pl. 75). Approximately three-fourths natural size.

proposition, it brings up the more complicated question of the validity of *Molossus rufus* Geoffroy. Geoffroy in his description of *M. rufus* referred to Buffon's description and plate of *Vespertilio auripendulus* and stated that its dimensions, the shape of its head, and its dark brownish maroon color brought it so close to *Molossus rufus* that he

believed that it could be an example of this species, but he ruled out this possibility on account of the number of incisors.

Geoffroy's type of *Molossus rufus* was much too large to be the species now known as *Molossus "rufus,"* and the evidence presented here shows that *M. rufus* Geoffroy, 1805, is indistinguishable from *Vespertilio auripendulus* Shaw, 1800. It seems that *Molossus ater* Geoffroy, 1805, must now be recognized as the correct specific name for the large *Molossus* now known as "rufus." *Ater* was named by Geoffroy at the same time he named *rufus* and was described as glossy black and having the following measurements: body, 70 mm.; tail, 40 mm.; and length of interfemoral membrane, 19 mm. When Miller visited the Museum National d'Histoire Naturelle, Paris, in 1904, he examined two specimens in the museum, each marked "type" but without exact locality. Miller (1913, p. 88, footnote) stated that they represented a large form like *rufus* and gave the forearm measurements as 49 mm. and 50 mm. In Miller's unpublished notes on the Paris Museum types, Handley found the following section on *M. rufus* which seems to modify somewhat my contentions.

Molossus rufus Geoffroy Cotypes.

Two specimens ($\delta \delta$) in bottle with label as follows: A 428. *Molossus rufus* Geöffr. Type. Amerique.

Both are in fair condition though the fur is mostly slipped on belly and lower back, and the color is ruined by alcohol. The skull has been removed from one; that in the other seems perfect. Measurements (those of specimen with skull inside stand first): 128, 125 \times 49, 44; tail free 18, 22; tib. 19, 19; ft. 11, 12.6; fa. 50, 49; (1) 8.2, 9; (2) 48, 49; (3) 98, 100; (4) 76, 75; (5) 50, 50; ear m. 16, 16; ear crm. 13, —; width e. 18, 17; antitragus 4.2 \times 4.8.

They are distinctly larger than ♀ specimens from Venezuela and Brazil, but are matched in size by a ♂ from Cayenne and ♀ *nigricans*. Except for measurements the specimens show nothing characteristic.

While Miller's measurements show that each of these specimens is much too small to be Geoffroy's type of *M. rufus*, they agree so closely with Geoffroy's measurements of *M. ater* that they may be confidently referred to the latter species. The bottle labeled "A 428 *Molossus rufus* Geöffr. Type. Amerique," therefore was not originally intended for these two specimens.

Dr. Jean Dorst has sent me the following measurements of the two specimens seen by Miller, which further confirm my contention that they are cotypes of *Molossus ater*: wing spread, about 230 mm.; skull (only one), greatest length, 22; zygomatic breadth, 13.8; upper tooth row, C-M³, 8.1.

There seems to be a discrepancy between the number of "pouces,"

and millimeters, for the wing spread of *M. rufus* in Geoffroy's description (1805, p. 156); 15 "pouces" would equal 420 mm., not 397 mm. I am inclined to accept the 15 "pouces" as correct.

Rode (1941, p. 250), in his list of types in the Paris Museum, makes no mention of *Molossus ater* but includes the type of *Molossus rufus* as No. A 428, preserved in alcohol with skull removed, and a paratype in alcohol with the skull removed. Dobson (1878, p. 415) placed ?*Molossus ater* Geoffroy in synonymy under *Molossus abrasus* Temminck and apparently had in mind the color of *ater* with Geoffroy's measurements of *rufus* from the line above in the type description.

MEASUREMENTS: The measurements are of the following specimens: *Vespertilio auripendulus* Shaw (type); *Molossus rufus* Geoffroy (type); *Eumops abrasus* (Temminck), adult male in alcohol (A.M.N.H. No. 142894), from Kartabo, British Guiana; *Molossus ater* Geoffroy (type), head and body and forearm measurements from Miller and wing spread from Dorst; *Molossus "rufus"* Miller, male (the largest individual in a long series of Trinidad specimens in spirits with wings stretched to the extreme limit).

	<i>auripendulus</i>	<i>rufus</i>	<i>abrasus</i>	<i>ater</i>	" <i>rufus</i> "
Head and body	90.23	88	84	81	80
Wing spread	410.56	420	415	230	355
Length of tail	—	59	50	40	40
Forearm	60	—	59.5	49	51
Interfemoral membrane	29.32	28	30	19	19

When Miller revised the genus *Molossus* in 1913, he made no mention of the discrepancy between the measurements of Geoffroy's type of *rufus* and the specimens he designated as *rufus*. Each of Geoffroy's measurements of *M. rufus* can apply only to a bat the size of *Eumops abrasus*, but Geoffroy's measurements of *ater* are the same as those given by Miller for "*rufus*."

A summary of the conclusions reached herein will place the named species in question in their respective chronological places.

Eumops auripendulus

- 1789 Chauve-souris de la Guyanne, BUFFON, Histoire naturelle générale et particulière, suppl. vol. 7, pp. 294-295, pl. 75.
 1793 Slouch-eared bat, PENNANT, History of quadrupeds, ed. 3, vol. 2, p. 313 (vernacular name only).
 1800 *Vespertilio Auripendulus* SHAW, General zoology, vol. 1, pt. 1, p. 137.
 1805 *Molossus rufus* GEOFFROY, Ann. Mus. Hist. Nat., Paris, vol. 6, p. 155.
 1805 *Molossus amplexi-caudatus* GEOFFROY, Ann. Mus. Hist. Nat., Paris, vol. 6, p. 156.

- 1827 *Dysopes abrasus* TEMMINCK, Monographies de mammalogie, vol. 1, pp. 232–233, pl. 21.
 1945 *Eptesicus auripendulus*, SHAMEL, Proc. Biol. Soc. Washington, vol. 58, p. 109.

Molossus ater

- 1805 *Molossus ater* GEOFFROY, Ann. Mus. Hist. Nat., Paris, vol. 6, p. 156.
 1878 ? *Molossus abrasus*, DOBSON, Catalogue of the Chiroptera in the . . . British Museum, p. 415.
 1913 *Molossus rufus*, MILLER, Proc. U. S. Natl. Mus., vol. 46, p. 88.

ACKNOWLEDGMENTS

I am greatly indebted to Dr. Charles O. Handley, Jr., of the United States National Museum for his detailed check of all the facts submitted in this paper and for his much-appreciated suggestions. Drs. S. P. Young, J. T. Paradise, and R. H. Manville of the United States Fish and Wildlife Service and Dr. Luis de la Torre of the University of Illinois, who have also seen this manuscript, are inclined to accept my findings. The conclusions drawn herein, however, are my own and do not necessarily reflect on the judgment of any of the scientists mentioned above.

BIBLIOGRAPHY

BUFFON, GEORGES LOUIS LECLERC

1789. Histoire naturelle générale et particulière. Paris, suppl. vol. 7, 364 pp.

DOBSON, G. E.

1878. Catalogue of the Chiroptera in the . . . British Museum. London, 567 pp.

GEOFFROY SAINT-HILAIRE, ETIENNE

1805. Mémoire sur quelques chauve-souris d'Amerique formant une petite famille sous le nom de *Molossus*. Ann. Mus. Hist. Nat., Paris, vol. 6, pp. 150–156.

MILLER, G. S.

1913. Notes on the bats of the genus *Molossus*. Proc. U. S. Natl. Mus., vol. 46, pp. 85–92.

PENNANT, THOMAS

1793. History of quadrupeds. Third edition. London, vol. 2, 324 pp.

RODE, PAUL

1941. Catalogue des types de mammifères du Museum National d'Histoire Naturelle. Bull. Mus. Natl. Hist. Nat., Paris, ser. 2, vol. 13, pp. 227–252.

SHAW, GEORGE

1800. General zoology. London, vol. 1, pt. 1, Mammalia, 248 pp.